

OCCUPATIONS

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Looking Ahead to Television Occupations

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A STUDY OF occupational possibilities in the field of television before that interesting art has made its commercial debut is possibly premature and certainly hazardous. It savors slightly of planning the Panama Canal shortly before the discovery of America. At best, any vocational analysis of the television of the future must be read with several provisos in mind. In the first place, a normal engineering development of television is assumed. That is, it is taken for granted that technical knowledge of television will increase apace, enabling the practical solution of the remaining engineering problems of television within a reasonable time. If any apparently insuperable obstacles should prevent the engineers from designing equipment meeting the reasonable needs and desires of the future television equipment purchasers, this might upset all calculations. We are all familiar with arts where normal progress has been retarded by dangers or limitations which the engineers have not as yet been able

to overcome. There is a slight but nevertheless existent chance that such obstacles might put off the commercial advent and general acceptance of television for some time.

♦ *Modern science and invention constantly are creating new occupational opportunities in a rapidly moving world. In the accompanying article a prominent New York City consulting industrial engineer gives a fascinating overview of what may be expected occupationally with the coming development of television. The information is most valuable to counselors of youth who might well heed the warning to proceed with caution!*

In the second place, a normal economic development of television must be regarded as probable in any analysis of its occupational possibilities. Television transmitting and receiving equipment is elaborate and relatively costly. Television program construction will be more complex and expensive than radio program construction of today. The television art

is a comparatively luxurious one. Manifestly, such an art can hardly be introduced rapidly on a large scale in times of marked economic depression nor can it be expected to win public favor under such circumstances. The television programs will be paid for, under our present system of broadcasting operation, by advertising sponsors in the main. The sponsors will in this way purchase a portion of the purchasing power and general good

will of the looking and listening public. But the size of the audience, its purchasing power, and its mood will all influence the extent to which the advertiser can justifiably support television broadcasting. Accordingly, there is an action and reaction between economic conditions and television success. If times are bad, the programs must be restricted which, in turn, affects the public response that justifies the broadcasting of the programs. Only in reasonably good times can this circle of effects be broken advantageously. Accordingly, those contemplating television as a career will watch closely for times of general economic recovery since it is in such times that arts like television can be expected to flourish and to afford opportunities for a multitude of new workers.

Assuming that television comes into its own in the next five or ten years, probably the best way to outline the various occupational opportunities which it will offer, and the requirements of each position, will be to describe the activities of the field in some detail (with the various prospective openings italicized).

OPPORTUNITIES IN MANUFACTURING

Let us start at the factory where the necessary equipment for television transmission and reception originates. Here are needed *apparatus engineers* who are capable of doing research, development, and design work in that complicated field. These men must be technically trained and well-qualified along conventional radio lines in order to meet the more difficult problems of television. These radio engineers are, in fact, electrical engineers with specialized training in the particular field of communications. In the factory there are also needed *tube engineers* who will handle the similar problems of vacuum-tube and cathode-ray-tube production which are an integral

part of the television transmitters and receivers. Some of these men may be university-trained physicists who are prepared to enter the equally complex but more commercial fields of tube research and design. The usual factory personnel will be required for television equipment construction, including *test men*, *supervisors*, *production and manufacturing engineers*, and the like. The qualifications here are similar to those for positions of the same type in other fields except that the manufacturing and test problems are probably more difficult and more rapidly changing than in most other fields, thus demanding a flexible, responsive, and original mind as well as great native energy and determination.

TRANSMITTING STATION JOBS

Once the television transmitter has been built and shipped, it must be installed in the television transmitting station and thereafter maintained. At this point, an entirely new series of openings will exist. *Television station engineers* will include *field-survey engineers* who will determine the best location for the station and its antenna system and who will study the strength and acceptability of the signals throughout the service range of the station. These men will also furnish the data which will satisfy the governmental authorities that the station is covering its territory with an adequate service in the physical sense. The equipment must be maintained in good condition at all times, and emergencies must be met, and this is the job of the *maintenance staff* of the station. Men of great reliability and prompt resourcefulness are required for this type of work.

The television-station studios will require a staff of their own of considerable size and of wide diversity of tasks. Considering the technical men only for the

moment, there will be *lighting experts* who will arrange and control the powerful illumination which floods the sets (scenery) in the studio and the actors. These men must be skilled electricians capable of handling, shifting, and controlling illumination in any desired fashion. There will be the *microphone* or *sound men* in the studio who will place and control the microphone supports or booms which hold the microphone close enough to the actors to pick up speech or music, while still keeping the microphone outside of the field of view of the camera. Here men with steady hands, quick responses, and a cool way of working effectively will be required (particularly in the stress of high-speed operations during the studio performance). In the control rooms of the studio, there will be *sound-control men* and *picture-control men* who will handle respectively the quality of the sound and the picture which is being transmitted. These men will be technically trained, probably as junior engineers, and they must have quick responses, good judgment, and manual skill in getting the picture and sound results which will best please the audience.

Sometimes, the television transmissions will be from sound-motion-picture film which has been previously made. For example, a film newsreel may be transmitted. This requires that there shall be *projectionists* who will handle and project the film on the television pickup whereby it is sent to the audience. Here too there will be necessary *film-sound control men* and *film-picture control men* who will carefully monitor the transmissions.

CAMERA MEN

The *television-camera men* will constitute a new profession as well. These men handle the television pick-up or

"camera" which is trained on the action and carefully and continuously focussed. The reactions of these camera men must be instantaneous, they must work with perfect coordination in groups where several angle-shots of the same scene are to be transmitted, and they must be resourceful and artistic in their pictorial sense. It should be remembered that the television broadcast cannot be altered after it is transmitted. The *first* transmission to the audience is the *last* transmission, in general, and there is no opportunity to rectify errors or limitations by a succession of "takes" (as is commonly done in present-day motion-picture production). Accordingly, the job of television-camera men will be exacting and important.

The television-camera men in the studio will be a part of a larger group, for it is clear that the outdoor television pick-ups will require the services of men of similar qualifications and perhaps as great resourcefulness to meet the multitude of complicated, partly unforeseeable, and sometimes uncontrollable conditions to be encountered in outdoor jobs. The outdoor camera man will necessarily be of somewhat the same type as the present successful newsreel camera man who can meet an emergency promptly and effectively.

Since a fair portion of television programs may be, as stated above, from film, it will be necessary to film program material, recording both picture and sound in the same way as now done by the motion-picture studios and newsreel companies. This will lead to a demand for *film camera men*, *sound recordists*, *editors*, *cutters*, and other men of the types found in the motion-picture studios of today. The demand in these fields may develop fairly rapidly as the program "hunger" of television broadcasting rapidly increases after its commercial inception.

TELEVISION SERVICE MEN

Still considering work of primarily technical nature in the television field, it is clear that the television receivers of the future must be installed correctly and kept in good operating condition. This requires the existence of a good-sized group of television *service men*. Such men must be familiar with the circuits of television receivers, their operation, the testing of the receivers for faults, the location of the faults and their correction, and the best method of installing and maintaining the receiver in the home. The public response to television will depend in some measure on the skill, honesty, and diplomacy of these service men, particularly during what may be the more or less difficult early days of commercial exploitation of television.

RELATED ACTIVITIES

Governmental regulation of radio broadcasting, as at present, will lead to the need for a number of *radio supervisors* in the various districts of the country charged with the inspection and supervision of the operation of the stations to determine that the Federal regulations are observed and to report on matters of service to the Federal Communications Commission. Further, the staff of the Commission will necessarily include *engineering* and *legal experts* in the new field of television. Those interested in entering the Government service may find openings of this sort congenial in the future.

There will necessarily be a considerable number of related or adjunct activities to those mentioned above in related fields. For example, once television broadcasting is carried out on a nation-wide scale, it will be necessary that the programs, in part at least, be syndicated or carried by wire or radio. If wire methods are used,

the "coaxial cable" will likely find considerable application. The construction of such cables, their installation, their operation and maintenance will then form one of the fairly extensive activities of the Telephone Company with the creation of a corresponding *television-cable staff*. To the extent that radio-relay methods of syndicating network programs are used in the television field, there will have to be established a *radio-relay staff*, consisting of engineers, maintenance men and the like to keep the connecting links in perfect operating condition.

OPPORTUNITIES FOR WRITERS

Leaving the field of technical television occupations, it is evident that there may exist a bewildering multiplicity of opportunities for persons of the necessary originality, energy, and application. Programs cannot be started until there are *authors*. Since the television lookers may be practically insatiable in their demands for program material, it will tax the inventiveness and strength of the authors to the utmost to supply the steady flow of interesting and usable material for the television programs of the future. The material prepared by the authors will, in some instances, require revision or adaptation by *re-write men* or *script men* who will have to be high-speed literary lights of special ability to meet the instant and considerable demands of the program staff.

DIRECTORS, ACTORS, MUSICIANS

The casting and production of the programs will require a number of persons, including, of course, *directors* who will know how to build up, rehearse, and present television programs. These men can be drawn partly from the legitimate or "little" stage and the motion-picture studios. In part, however, they will have

to be trained at dramatic schools which may be established for the purpose.

At this point there is reached what may be the most serious television demand of all, namely, the demand for qualified *actors*. By "actors" are meant all those appearing before the television camera and microphone including *musicians, announcers, dramatic and comedy characters, commentators, vaudeville actors, lecturers, interviewers*, and the like. It must be remembered that we do not as yet know just what are the desirable qualifications for a television actor. The nature and psychology of the home audience, the limitations and opportunities of home presentations, the technical capabilities and restrictions of the television screen, and the general economic problems of television will all affect the suitability of a given person as a prospective television actor. Since only a minor fraction of the aspirants will please the radio public, it follows that a great number of applicants will be necessary to meet the situation. However, the career of a television actor will be appealing to many and, in spite of the long odds against the individual, it is likely that there will be intense competition from a horde of applicants for these openings. Probably those who have been adequately trained and have had successful experience in somewhat similar fields will stand the best chance of successfully entering this new field.

A considerable number of studio openings will necessarily exist in the television field, for example, jobs for *carpenters, scenic painters, set artists or designers, costume experts, wardrobe mistresses, make-up men, historical-research specialists* (who will see to it that no historical inconsistencies or inaccuracies are present in the performance) and the like. Such openings will increase only rather slowly in number as time goes on, since it is likely that the full development of the television field as a branch of the art of the stage will take a generation or more because of the many and novel problems which are involved.

CAUTION!

One final word may be in order in the form of advice to the person who is thinking of entering the field of television. Don't push and run—walk; and watch where you are going. Speed in rushing into the field will not be nearly so helpful as first knowing where your abilities lie, cultivating those abilities by training in fields similar to television, and then everlastingly sticking to the job of perfecting your talents and their application once you have entered the television field. Remember that television success will come rather as the result of a prolonged marathon of effort than from a brief gold-rush of enthusiasm.